

## ABSTRACT

The invention provides, in an embodiment, an apparatus, method and means for unintrusively observing, echoing and reading signals transmitted by one of a bus and wireless communication, without disturbing electrical properties of the bus, without adding bus latency, and without adding signal discontinuities. In an aspect, a buffer having a trigger is coupled with a component that connects to a memory bus, the buffer echoes signals to an observability port, and a diagnostic device reads the echoed signals. In an aspect, the bus is one of a simultaneous bi-directional (SBD) bus having ternary logic levels, a single ended bus, a differential bus, an optically coupled bus, a chipset bus, a frontside bus, an input/output (I/O) bus, a peripheral component interface (PCI) bus, and an industry standard architecture (ISA) bus. In an aspect, the buffer echoes bus signals having frequencies between 500 MHz. and 5 GHz. In an aspect, the buffer echoes bus signals having frequencies of at least 5 GHz.